A study of New Zealand men who have sex with men

Report nine:
HIV testing and sero-status

A research project of the New Zealand AIDS Foundation
funded by the Health Research Council of New Zealand.
MALE CALL
Waee Mai, Tane Ma

Report Nine
HIV Testing and Sero-status

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Male Call/Waea Mai, Tane Ma Report Series:

- Report 1: Methodology and Demographic Characteristics
- Report 2: Men in Relationships with Men
- Report 3: Maori Men Who Have Sex with Men
- Report 4: Casual Sex between Men
- Report 5: Sexual Identity
- Report 6: Regions
- Report 7: Gay Community Involvement
- Report 8: Men who have Sex with Men and Women
- Report 9: HIV Testing and Sero-status
- Report 10: Sex Workers
- Report 11: Men who have Sex with Men who Inject Drugs
- Report 12: Sexually Transmitted Diseases

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Overview

Male Call/Waea Mai, Tane Ma was the first nationwide survey of men who have sex with men (msm) in New Zealand. The project was undertaken because no large scale baseline data on this population was available. While a number of other groups are affected by HIV in this country, the virus is most significantly present amongst msm, who account for over 80% of those with AIDS. As there is still no vaccine or cure for HIV infection, behaviour change remains the only strategy available to manage the HIV epidemic. In order to develop effective and efficient HIV prevention programmes, it was recognised that there was an urgent need for up to date, accurate data on the socio-sexual characteristics of men who have sex with men. The aims of this survey were to:

- describe men who have sex with men’s HIV and AIDS knowledge and their sexual practices with a special focus on the adoption of safer strategies;
- examine the ways in which HIV and AIDS knowledge and safe sex practice are related to a number of important demographic and contextual variables;
- provide baseline data on the sexual behaviour of men who have sex with men which can be used to assist in the planning and development of HIV prevention programmes; and
- to develop a core set of baseline questions which could be used in future surveys of men who have sex with men.

The method used was a nationwide telephone survey which was conducted over a six week period between May and June 1996. All men who had sex with another man in the previous five years were eligible to participate. Respondents called an 0800 toll-free phone number and answered a questionnaire, which took approximately forty minutes to complete. Respondents were able to terminate the call at any time. This method ensured that participants could remain anonymous, and encouraged a wide range of msm to participate. The questionnaire was developed by modifying and expanding the original Australian Project Male Call instrument, which was first used in 1992.

The questionnaire was completed in full by 1852 men. Male Call/Waea Mai, Tane Ma attracted a broad cross section of msm through a successful recruitment campaign that spanned both mainstream and gay media.
Introduction

In 1983, the human immuno-deficiency virus (HIV) was discovered, and by the end of 1985 testing for HIV was widely available, at least in the developed world. Since HIV testing was introduced in New Zealand in 1985 large numbers of men who have sex with men (msm) have been tested for HIV. As Kalichman et al. (1997:50) state “for many gay and bisexual men testing has become integrated into a more general health consciousness, much in the same way that condoms have”.

There has been considerable debate both in New Zealand and overseas about the relative costs and benefits of testing. Many msm may feel it is 'risky' to test because of the likelihood of discrimination if the test result is HIV positive. Cindy Patton notes (1996:30) that, in the United States, decisions around testing often “conflated surveillance and prevention”. If HIV status is notifiable then people may fear that they or their partners could be placed under some kind of state scrutiny. Some activist groups also felt that testing for HIV should not be encouraged unless there were adequate support systems in place for those who tested positive. While the benefits of testing now include the possibility of early drug treatment intervention, testing cannot necessarily be seen as a “component of safer sex strategies” (King 1993:72).

Despite these concerns, a number of health professionals and policy-makers have argued that the benefits of voluntary HIV testing outweigh the potential risks (Goedert 1987). These include the prevention of transmission to partners and earlier access to treatment and support. A growing number of community-based organisations in the UK, the US and elsewhere have adopted a policy of recommending antibody testing.

The New Zealand government, upon receiving submissions from the New Zealand AIDS Foundation and other community groups involved in HIV care, support and prevention, developed a liberal policy with regards to HIV testing. While there is encouragement of HIV testing in New Zealand (particularly amongst msm), this recommendation has been tempered by concerns about privacy. The National Councils on AIDS’ 'New Zealand Strategy on HIV/AIDS' (1990:47) argued that “[t]he use of testing to establish a person’s HIV status raises serious considerations relating to informed consent, confidentiality, and counselling which apply to testing in all circumstances”. This document recognised that HIV testing would be a positive public health measure if certain privacy requirements were met.
Paterson (1996:34) has argued, "[c]oncern that fear of discrimination would deter at-risk individuals from taking an HIV test, and thus drive the epidemic underground, led to an emphasis on the privacy of HIV-related information". The New Zealand Strategy on HIV/AIDS document (1990:49) also argues that mandatory partner notification would mean a "possible loss of confidence on the part of the infected person and his or her caregivers in the care system".

While the AIDS epidemic reached New Zealand somewhat later than in other parts of the world, as at 30 June 1996 (the time of the survey), a total of 651 men had tested positive for HIV in New Zealand as a result of sex with men since testing began in 1985 (AIDS Epidemiology Group 1996). This number is certain to be an underestimate as there were, at that time, a further 259 men (22.9% of the cumulative total) who had no source of transmission recorded. Of those with AIDS, 472 were men who have sex with men. This represented 84.7% of the cumulative total of those people with AIDS in New Zealand at the time of the survey.

This report mainly focuses on the effect of demographic, social milieu and sexual practice factors on HIV testing among survey respondents. However, the demographic and social milieu characteristics and sexual practices of the men who identified as HIV positive are also described. The inclusion of this latter section is very important, as to date, no nationwide survey of HIV positive people has been undertaken. While there has been anecdotal evidence (reported at HIV forums) to suggest that HIV positive men are comparatively worse off financially than those men who are HIV negative, to date no quantitative evidence has been produced. In addition there is often a taboo about speaking about HIV positive men's sexual activities. This silence is perpetuated because there is a real fear of discrimination both within and outside the gay community.

While the report is primarily descriptive, some statistical analysis has been undertaken. For the first two main aims below, logistic regressions were carried out. The details of these are given in Appendix 1. The results of these are discussed alongside charts in the body of the text. Where it was more appropriate to carry out univariate tests of difference, the results of chi-squared tests and t-tests are footnoted. The aims of this report are:

- to examine the effect of demographic and social milieu factors and sexual practices on whether respondents had ever tested for HIV
- to investigate the effect of demographic and social milieu factors and sexual practices on whether respondents tested for HIV regularly or occasionally
to describe the differences in demographic, social milieu and sexual practice characteristics between those men who had tested HIV positive and those who had tested HIV negative.

Section I of the report will discuss how demographic and social milieu characteristics relate to HIV testing amongst Male Call/Waea Mai, Tane Ma respondents. Section II compares MSM who tested regularly with those who tested only occasionally. Section III describes a number of demographic, social milieu and sexual practice characteristics of the HIV positive respondents to the survey.
Section I: HIV Testing

Respondents were asked whether they had ever had an HIV test. As Figure 1 indicates, nearly three quarters of the total sample (70.4%, or 1303 men) had been tested at least once in their lifetime. This finding suggests that the majority of New Zealand MSM have tested at least once for HIV.

![Figure 1: Proportion of total sample who had ever tested for HIV (n=1852)](image)

This finding is similar to other surveys such as the New Zealand Have Your Say survey (Aspin et al. 1994) in which 72.1% of the 448 respondents had tested, the 1996 Australian Male Call figure of 77.7% (Crawford et al. 1996) and Heckman et al.'s (1995) study of MSM in small US cities, in which 68.0% of respondents had been HIV tested. But it is higher than findings in the British SIGMA study (see Davies et al. 1993:96) which found that just over a half (54.0%) of the 930 respondents had been tested.

Several factors appear to increase the likelihood of MSM testing for HIV. These include perception of high risk, strong protection of patient confidentiality and access to anonymous testing centres (Irwin et al. 1996:1713). There are a number of possible reasons for the relatively high rate of HIV testing in New Zealand among men who have sex with men. Most important are probably the passage of the Homosexual Law Reform Bill in 1986 which decriminalised homosexual acts and the Human Rights Act 1993, which makes discrimination unlawful on the grounds of a person being HIV positive.1

There is also a high degree of privacy protection for those with HIV. HIV is not a notifiable disease under the Health Act 1956, whilst AIDS is only notifiable with a three letter code.
sex and date of birth - which provides a guarantee of anonymity. In addition, mandatory partner notification is not attached to a positive test.²

Predictors of ever having an HIV test

A logistic regression was used to investigate whether demographic and social milieu variables had an effect on whether or not respondents had ever had an HIV test.³ See Appendix 1 for full details of variables used. The regression found that age, ethnicity, income, sexual identity, gay community attachment and contact with the epidemic were associated with ever having been tested. The regression also found that there was a relationship between whether respondents had engaged in anal sex in the previous six months and whether they had ever tested. Several univariate tests were also carried out and the results of significant relationships in univariate analysis have been included. These findings are discussed below.

Age

Respondents in the 25-39 year age group were significantly more likely to have ever had an HIV test than other respondents.⁴ While three quarters (75.5%) of men aged between 25-39 had ever been tested, only 50.6% of men aged 15-24 and 68.3% of those aged 40 years and over had ever tested (see Figure 2 over).

It is interesting to note that considerably fewer of the younger respondents (those aged between 15-19 years) had tested for HIV (41.2%). Perhaps this is solely an effect of youth. That is, because they are younger they are likely to have had fewer partners (and thus less perceived sexual risk) and also less time to test. However, Male Call/Waea Mai, Tane Ma data also show that young men (15-19 years) were significantly more likely to have highly unsafe sex with their regular partner than those aged 20 and over.⁵

² There have been some New Zealand situations, however, in which an HIV positive patient’s confidentiality was not absolute, and where it was recognised that, under certain circumstances, there was a duty to warn third parties (eg. the Peter Mwai case (see Worth 1997)).

³ The notion of ‘social milieu’ centres on men’s sexual identity, their involvement in the gay community, their disclosure of attraction to men and association with the HIV epidemic, and how these social contexts affect their lives. These contexts have made a considerable impact as to how open men are about their attraction to men and about their sexual identity (see Kippax et al. 1994, Crawford et al. 1998). They may also influence where men go to obtain an HIV test and the reasons why they test.

⁴ p<0.03.

⁵ See Male Call/Waea Mai, Tane Ma Report No. 2: Men in Relationships with Men for more detailed analysis of highly unsafe sex practices of young men.
While Peterson et al. (1990), in their study of gay and bisexual men in San Francisco, found that young gay men under 30 were less likely to test than those over 30 (35% and 54% respectively), our results show a somewhat more complicated picture with those under 20 indicating the lowest level of testing and those 25-29 indicating one of the highest levels.

Crawford et al. (1998:88) report that HIV testing was lowest in the under 20 age group in both the 1992 and 1996 Australian Male Call surveys. Furthermore, they found that the rate of testing in that age group had dropped from 63% in 1992 to 53.3% in 1996. Roffman et al. (1995) found that age and testing were not correlated in their study of male gay bar patrons in small US cities, however the nature of his study (in bars) may have excluded very young men from taking part.

**Ethnicity**

Male Call/Waea Mai, Tane Ma found that respondents who self identified as Chinese or Indian were significantly less likely than other ethnic groups to have ever had an HIV test (see Figure 3 over). While just under half (46.1%) of the 52 Chinese/Indian respondents had ever tested for HIV, approximately two thirds of Maori (69.4%) and NZ European respondents (71.4%) had done so. A higher proportion of Chinese/Indian men identified as heterosexual (15.7%) compared to non-Chinese/Indian men (5.9%); had casual sex with women in the last six months (12.0% cf 6.9%); and were aged under 25 (38.5% cf 16.4%). There may also be language barriers to Chinese/Indian men testing, or a fear that if they present for an HIV test, their homosexuality will be exposed in a manner that is culturally unacceptable.

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6 We have combined the responses of those men who identified as Chinese or Indian as otherwise the numbers were too small to test.

7 p=0.03.
Income

The survey did not find contrary to some overseas data that the likelihood of having been tested for HIV decreased as personal income increased. In fact, respondents who earned under $20,000 p.a. were significantly less likely than those who earned over $20,000 p.a. to have ever had an HIV test.\(^8\) Two thirds (62.6%) of respondents who earned less than $20,000 p.a. had ever been tested, compared to 73.7% of those who earned over this amount.

Male Call / Waea Mai, Tane Ma identified men as belonging to an "underclass" category if they were on incomes under $20,000 p.a. and had educational qualifications of School Certificate or less. In line with the above findings on income, the survey found that the 171 respondents who fell into this category were significantly less likely than the rest of the respondents to have ever had an HIV test.\(^9\) Only 57.9% had ever tested compared to 71.6% of those not in an underclass.

Sexual identity

The only sexual identity that was found in the logistic regression to be associated with HIV testing was 'bisexual' (see Appendix 1 for full details of this). Those survey respondents who identified as bisexual were significantly less likely to have ever tested than those men who did not identify as bisexual.\(^10\) Just over half (54.0%) of the 507 men who identified as bisexual had ever tested, compared with 76.5% of all other survey respondents. Other

\(^8\) p=0.02.

\(^9\) p<0.001 (univariate analysis).

\(^10\) p = 0.0004. It must be remembered that respondents could choose more than one identity. On average, respondents chose 2.5 identities. See Male Call/Waea Mai, Tane Ma Report No. 5: Sexual Identity for a more detailed analysis of the relationship between MSM's sexual identity and sexual practice. See also Male Call/Waea Mai, Tane Ma Report No 6: Men Who Have Sex with Men and Women for a more detailed analysis of the characteristics of survey respondents who had sex with men and women (msmw).
research has also found that men who identify as bisexual were less likely to test for HIV, such as Myers et al. (1993) and Crawford et al. (1998).

![Figure 4: Proportion of respondents who had ever tested for HIV, by sexual identity](image)

**Gay community attachment**

Male Call / Waea Mai, Tane Ma was interested in gauging men's attachment to the gay community for the purpose of exploring the relationship between community involvement and sexual practice, including condom use. A gay community attachment scale was constructed by ranking (on a scale of one to twelve) respondents' social contact with other gay/homosexual men, and places they visited with their gay friends. A score of five or more was regarded as indicating the respondent was gay community attached (gca), and a score of four or less indicating that the respondent was non-gay community attached (non-gca).  

![Figure 5: Proportion of respondents who had ever tested for HIV, by gay community attachment](image)

Again, similar to the findings of the 1996 Australian Male Call (Crawford et al. 1998), we found that respondents who were gay community attached were significantly more likely to

11 This measurement is somewhat crude and makes it difficult for men who live in provincial or rural areas to be classified as gay community attached. However, the scale makes it possible to compare data from this survey with that of Australian Male Call surveys. For a full discussion of this see Male Call/Waea Mai, Tane Ma, Report No. 7: Gay Community Involvement.
have ever tested for HIV than non-gca men. Three quarters (78.2%) of gca msm had ever tested, compared to 56.5% of non-gca msm.

It is likely that those men who are socially involved in the gay community have greater support systems for dealing with the physical and emotional trauma of a possible positive result, which may explain the difference in rates of testing. The gay community offers peer support, as well as promoting awareness and support of testing through support groups, media sources and pamphlets in venues around New Zealand. As well, safe sex campaigns in New Zealand have for the most part primarily targeted gay community-attached msm.

Association with the HIV epidemic

One of the most statistically significant associations found in the regression was between knowing someone with HIV and having ever been tested for HIV. That is, those respondents who knew someone with HIV were significantly more likely to have ever been tested than those who did not know someone with HIV. Nearly two thirds of the respondents (62.0%) stated they knew, or had known, someone with HIV, and of these men, 83.2% had ever tested. In comparison, just under half (49.4%) of the 698 respondents who did not know anyone with HIV had ever tested.

![Figure 6: Proportion of respondents who have ever tested for HIV, by whether they knew someone with HIV](image)

A relationship was also found between whether or not the respondents knew someone with AIDS and HIV testing. While 79.1% of those who knew someone with AIDS had ever tested for HIV, the corresponding figure for those who did not know anyone with AIDS was 55.0%.

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12 p=0.02.
13 p<0.0001.
14 p=0.03.
HIV Testing and Relationship Status

We found that those men who were in a regular sexual relationship with a man (of six or more months duration) were significantly more likely to have ever tested for HIV than those who were not in a regular relationship. Within the survey, a regular male partner was defined as any sexual partner “you have had sex with more than once, and with whom you plan to have sex again in the near future”. As the survey questioned respondents on their sexual practices and condom use in the previous six months, for the purpose of analysis only those men who were in a regular sexual relationship of six months or longer are included here. Of the 741 respondents in a relationship of six months or longer, 558 or 75.3% had ever tested for HIV, whereas 65.1% of the 912 men who did not have sex with a regular partner had done so.

Anal sex

Significantly more of the 1256 respondents who had engaged in anal sex in the last six months with a male partner had ever tested for HIV (74.0%) than those who had not had anal sex in that time (62.5%). This result is an encouraging finding as it may suggest that those MSM in New Zealand who are engaging in the activity most likely to transmit HIV have been concerned enough with their sexual health (or their partners’) to be tested at least once.

![Figure 7: Proportion of respondents who had ever had an HIV test, by anal sex in previous six months](image)

This correlation was also found when analysis was undertaken by sexual partner type. A higher percentage of the 562 men who had engaged in anal sex with their regular male

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15 For the purposes of this study, the SIGMA definition of a regular partner was modified. The SIGMA work defines a regular partner as one with whom you have had sex more than once, where the second and subsequent meetings were not accidental, and with whom you intend to have sex in the near future (Davies et al., 1993).

16 See Male Call/Waea Mal, Tane Ma Report No. 2: Men in Relationships with Men for more detailed analysis of the demographic characteristics, sexual practices and condom use of respondents who were in a regular sexual relationship with another man.

17 p<0.001 (univariate analysis).

18 p=0.007.
partner in the six months prior to interview had ever tested (77.8%), compared with those men who had not had anal sex with their regular partner in that time (63.5%).

There was also a significant correlation between anal sex with a casual partner and ever having an HIV test. Nearly three quarters (72.6%) of the 817 men who had had anal sex with a casual partner or partners in the last six months had tested compared to 67.9% of those who had not had anal sex in that period.

Myers et al.'s (1993) Canadian study of 1295 msm found that HIV testing and anal sex were correlated - just over half (56.4%) of those who had anal intercourse in the last three months had been tested for HIV, compared with 47.6% of those who had not engaged in anal sex. Also, the 1996 Australian Male Call survey found that untested men had the lowest percentage who engaged in receptive anal sex with a casual partner. For example, 42.9% of untested msm had receptive anal intercourse with a casual partner, compared with 45.4% of those who had tested negative and 50.4% of those who had tested positive (Crawford et al. 1998:153).

HIV testing and sexual practice
Logistic regression was also used to investigate the effect of several variables relating to sexual practice and condom use on whether respondents had ever had an HIV test. As respondents were asked about sexual practices and condom use in the previous six months (and as the most unsafe sex between men is anal sex), the analysis was restricted to only those men who had engaged in anal sex with a man in the previous six months (see Appendix 1 for full details of variables used). The test found that there was a relationship between whether respondents had engaged in highly unsafe sex in the six months prior to interview and numbers of casual male partners, with ever having tested for HIV.

Highly unsafe sex
We were interested in exploring the relationship between incidences of "highly unsafe sex" in the last six months and HIV testing. Highly unsafe sex was defined in this survey as having engaged in unprotected anal sex with a man whose HIV status was unknown to the respondent, or different than their own, at least once in the previous six months. This definition has been chosen because such a scenario includes the combination of two

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16 \(p=0.008\) (univariate analysis).
17 \(p=0.05\) (univariate analysis).
18 It must be noted that respondents will not necessarily have had anal sex with all their partners.
potentially high-risk elements: unprotected anal intercourse and lack of awareness of their partner’s sero-status.

The survey found that those men who had at least one incident of highly unsafe sex in the six months prior to the study were significantly less likely to have ever tested for HIV than those who had not engaged in highly unsafe sex. Two thirds (65.1%) of the respondents who had engaged in highly unsafe sex had ever been tested, compared with three quarters (76.3%) of those who had not had highly unsafe sex.

Figure 8: Proportion of respondents who had ever tested for HIV, by highly unsafe sex

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Had highly unsafe sex</td>
<td>65.1%</td>
</tr>
<tr>
<td>Did not have highly unsafe sex</td>
<td>76.3%</td>
</tr>
</tbody>
</table>

Overseas studies on the connection between HIV testing and safe sexual practice have often produced contradictory results. In their study of 1820 gay men in small US cities, Roffman et al. (1995) found that those who had been tested had a greater frequency of condom use (see also Waddell 1993). However, McKirnan et al.’s (1992) study of 406 Dutch MSM found that men who had tested were no more likely than those who had not tested to practice safe sex, as did Myers et al. (1993) who found that there was no difference in the rates of unprotected anal intercourse between men who had tested and those who had not. Both Myers et al. (1993) and Grunseit et al. (1993) found that some MSM were using HIV testing as a prevention strategy (ie instead of using condoms they are testing after each unsafe encounter). Dawson et al.’s (1994) study of 677 British men attending STD clinics found that the majority of gay men having unsafe sex were unaware of their partner’s status. They found that in only 26% of the times in which unprotected sex occurred was there mutual awareness of HIV status. Furthermore, unsafe sex without knowledge of HIV status was most likely in regular relationships.

One reason for the correlation between unsafe sex and not testing may be men’s fear of a possible positive result. Siegel et al. (1989), in their New York study, found that psychological fears and the presumed harmful effects of knowing one is positive was a reason for not testing. This has certainly been found to be one factor in earlier research.
carried out in New Zealand. Aspin et al. (1994:17) found in their survey of the New Zealand gay community that 17.6% of men who had not been tested stated they were too frightened of a possible positive result to take a test, although the most common reason for not testing was that they had not taken sexual risks. In their study of unsafe sex, poverty and sexual identity in South Auckland, Worth, McNab and Aspin (1999, forthcoming) found fear of a possible positive result a major barrier to testing.

Number of casual male partners

Male Call / Waea Mai, Tane Ma found that those respondents who had engaged in sex with higher numbers of casual male partners in the six months prior to interview were significantly more likely to have ever tested for HIV than those who had sex with fewer casual partners. 23

![Figure 9: Proportion of respondents who have ever tested for HIV, by number of casual male partners in previous six months](image)

For example, 84.2% of those who had anal sex at least once and who had ten or more casual male partners in the previous six months had tested for HIV, compared to 65% of those who had anal sex but only one casual male partner over this period.

Condom use

No association was found between condom use and HIV testing for men who had anal sex in the last six months with a male partner. Three quarters (74.7%) of the men who had used condoms 'sometimes' or 'always' for anal sex in the previous six months with a male
partner had ever been tested, and a similar proportion (72.0%) of those who 'never' used a condom in the previous six months had ever been tested.  

However, when analysis was undertaken by partner type, a significant relationship was found between condom use with a casual partner and HIV testing (see Figure 10). Only 61.4% of the 81 men who never used a condom with their casual partner/s in the last six months had ever tested for HIV, compared to 74.3% of the 733 men who had sometimes or always used a condom.  

This result may indicate a denial of risk and an avoidance of testing because of the risk of a positive result.

![Figure 10: Proportion of respondents who ever tested for HIV, by condom use with casual partners](image)

**Places where men went to test**

Respondents had been to many different places to test for HIV. As Figure 11 (over) shows, of those 1303 msm who had tested, almost half (45.4%) went to their GP, while around a quarter tested at STD clinics (21.9%), and a further fifth (18.8%) at NZAF clinics.

Irwin et al. (1996:1707) argue that counselling can be seen as "a cornerstone of comprehensive HIV prevention and treatment" as it provides an opportunity to give individual advice and ongoing support on issues such as consistent condom use and ways of avoiding unsafe sexual encounters. Furthermore, they state that client-centred pre- and post-test counselling (in which staff at STD and AIDS clinics are specifically trained) are particularly acceptable, compared to more non-interactive and didactic methods (ibid:1712) (see also Valdeserri 1997).

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24 Respondents were asked to indicate condom use on a scale of "always" to "never" and were asked to do this separately for each type of anal sex (the full scale for condom use was: Never/ Very rarely/ Sometimes/ Almost always/ Always). Note that respondents' answers may have differed for each type of anal sex (for instance, some men may have reported "never" using a condom for anal sex with withdrawal, but may have indicated "always" if ejaculation inside was involved). Notwithstanding, a clear subgroup of men who "never used a condom" could be isolated. This category includes only those men who indicated that they had "never" used a condom for any type of anal sex in the previous six months (that is, smm who reported that they "very rarely" or "sometimes" used condoms were not included).

25 p<0.002 (univariate analysis).
Figure 11: Place where respondents went for last HIV test (n=1303)

Anecdotal evidence (for instance, GP appointment times may only take ten minutes) suggests that people do not necessarily receive pre- or post-test counselling from GPs, and the relatively high proportions of respondents who went to a GP for an HIV test may indicate a need for education on the importance of pre- and post-test counselling for doctors.
Section II: Regular and Occasional HIV Testing

For many men who have sex with men, regular HIV testing is an integral part of their general health consciousness. Kalichman et al. (1997) argue that significant numbers of msm repeatedly test and that this repeated testing is related to positive views about health. Overseas research has found significant differences between men who HIV test regularly and those who test occasionally. Phillips et al. (1995:772) in their study of msm in two US cities found that those who did not know the HIV status of their regular partners were generally less likely to be repeat testers. In addition, men who were younger and non-white were more likely to be regular testers (see also Truax and Ramirez 1990, McFarland 1995). However, Mckirnan et. al. (1992) found no difference in sexual risk by time since last tested.

Number of times tested

Of the total 1303 men who had tested for HIV in their lifetime, the majority (989 or 75.9%) had tested more than once. A quarter (24.1%) had only ever tested once in their lifetime, and 26.1% had tested five or more times.

![Figure 12: Number of times respondents had tested for HIV (n=1303)](image)

Last time tested

Respondents were also asked when they had last tested for HIV. Overall, half (51.2%) of those who had ever tested had last done so in the year prior to the survey. Very few msm (6.9%) had last been tested over five years ago (see Figure 13, over).
Categories of testers

Two categories were created: those who had tested five or more times and had tested in the last year (these men were called ‘regular testers’), and all others who had ever tested (these men were called ‘occasional testers’). The majority of MSM (1034, or 79.3%) were occasional testers. A total of 269 men (20.7%) fell into the regular tester category.

Predictors of regular testing

We were interested in exploring the demographic, social milieu, and sexual practice differences between men who tested regularly and those who tested occasionally. A logistic regression was carried out to investigate the effect of several factors on whether or not MSM who had had at least one HIV test in their lifetime were regular testers (see Appendix I for full details of variables and results). The test found that age, income, being paid for sex in the last six months, knowing someone with AIDS, and engaging in anal sex in the previous six months were significant predictors of being a regular tester. These findings are discussed in more detail below.

Age

Men in the age group 25-39 were slightly more likely than men in other age groups to be regular testers.26 This links in with earlier findings that men in this age group were more

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26 p=0.04.
likely to have ever had an HIV test. This may be an effect of age (i.e., younger respondents may not have tested more than once), and that MSM aged between 25 and 39 became sexually active in an era in which testing was encouraged amongst MSM.

Figure 15: Type of tester, by age

Income
Those on an annual income of more than $20,000 p.a. were significantly more likely than those on lower incomes to be regular testers.\textsuperscript{27} Nearly a quarter (22.4\%) of the 959 respondents who had tested at least once and who earned more than $20,000 p.a. were regular testers, compared with 15.3\% of the 332 respondents who had ever tested and who earned less than $20,000 p.a. Again, this is linked to the previous finding that respondents who earned $20,000 p.a. and over were significantly more likely than other respondents to have ever had a test for HIV.

Been paid for sex
Men who had been paid for sex in the last six months were significantly more likely to test regularly than those who had not been paid for sex.\textsuperscript{28} A total of 74 respondents who had ever had an HIV test had been paid for sex in the previous six months. A third (36.4\%) of these 74 men were regular testers. In comparison, 19.7\% of the 1229 men who had ever had an HIV test but who had not been paid for sex were regular testers (see Figure 16 over).

This finding is perhaps not surprising, as sex workers may wish (and need) to be particularly careful about their sexual health.

\textsuperscript{27} p=0.01.
\textsuperscript{28} p=0.002.
Know someone with AIDS

An association was found between knowing someone with AIDS and being a regular tester.\textsuperscript{29} Of all 1303 respondents who had ever tested, a quarter (23.6\%) of those who knew someone with AIDS were regular testers, compared with 13.6\% of those who did not know anyone with AIDS.

Anal sex

A strong relationship was found between having engaged in anal sex in the previous six months and being a regular tester.\textsuperscript{30} As Figure 17 shows, of all respondents who had ever tested for HIV, a quarter (25.8\%) of the 930 respondents who had engaged in anal sex with a man in the last six months were regular testers, while only 13.1\% of those who did not have anal sex in the same period were regular testers.\textsuperscript{31}

Sexual relationships and sexual practice

Logistic regression was also used to investigate the effect of several variables relating to sexual practice and condom use on whether respondents were regular testers. The

\textsuperscript{29} p=0.003.

\textsuperscript{30} p=0.0002.

\textsuperscript{31} In line with this finding, univariate analysis also found that while similar proportions of regular and occasional testers had sex with at least one casual male partner in the six months prior to interview (78.8\% of regular and 72.4\% of occasional testers had done this), significantly more regular testers had engaged in anal sex with their casual partners (75.4\%), than occasional testers (67.1\%) (p<0.0001).
analysis was restricted only to those men who had engaged in anal sex with a man in the previous six months (see Appendix 1 for full details of variables used). Again, in line with earlier findings, the test found that having engaged in sex with higher numbers of casual male partners in the previous six months was associated with being a regular tester. Condom use was also a significant factor.

Number of casual male partners

The survey found an association between higher numbers of casual male partners and being a regular tester. Of the 930 msm who had ever had an HIV test and who had engaged in anal sex with a male partner in the previous six months, 719 had sex with a casual partner in that time. Nearly one third (31.1%) of the msm who had sex with ten or more casual male partners were regular testers, compared with 17.9% of those who had sex with one casual partner.

Condom use

The survey found a significant relationship between condom use and regular testing. Of all respondents who had ever had an HIV test, 930 msm had anal sex with a male partner in the previous six months. Of these men, the majority (78.5%) used a condom 'sometimes' or 'always', and the remaining 21.5% fell into the 'never used a condom' category.

![Figure 18: Type of tester, by condom use in previous six months](attachment:figure18.png)

Those who had used a condom 'sometimes' or 'always' were significantly more likely than those who had 'never' used a condom to be regular testers. A quarter (25.4%) of the msm who used condoms were regular testers, compared with 17% of those who never used a condom.

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32 p=0.008.
33 p=0.04.
Section III: HIV Positive Men who Have Sex with Men

HIV positive men face a number of challenges and difficulties. An HIV positive result may mean experiences of depression and almost certainly of anxiety (see Higgins et al. 1991). Many HIV positive people face financial hardship, ill health and possible relationship loss. In addition, there has been, and arguably still is, a very real stigma attached to being HIV positive, and an even greater stigma associated with being gay and HIV positive. It must also be remembered that until recently, being HIV positive meant the likelihood of death after a period of approximately ten to twelve years. Now, new highly aggressive drug treatments for HIV mean that many HIV positive men have to face different challenges, in particular a longer lifespan with a chronic illness.

Male Call / Waea Mai, Tane Ma asked respondents the result of their last HIV test. Of those 1303 men in the survey who had ever been tested, 1220 (93.6%) were HIV negative, 55 (4.2%) were HIV positive and 28 men (1.6%) had been tested and had not yet received their result, or declined to answer the question.34

Date of positive diagnosis

Over half (54.5%) of the men who were HIV positive had been living with their diagnosis for five years or longer, and thirteen of these men were first diagnosed over ten years prior to the survey. Six respondents were newly diagnosed in the year prior to interview. These findings are similar to the overall national pattern of HIV diagnoses amongst men who have sex with men, as shown by AIDS Epidemiology Group data.35 Figure 19 compares the national pattern of date of diagnosis with that of the HIV positive respondents to this survey.

![Figure 19: Date of HIV diagnosis of msm in NZ](image)
Some of these reported dates may be a result of faulty memory, however it appears that a higher proportion of our respondents were first diagnosed before 1986 than the national data indicates. This may be because a number of the respondents were first diagnosed outside New Zealand, which is consistent with a study of HIV positive men in New Zealand (see McNab and Worth 1999).

**Demographic and social milieu characteristics**

Univariate analysis was undertaken on differences in demographic and social milieu variables between HIV positive and HIV negative respondents. Variables tested included age, ethnicity, income, gay community attachment and place of residence. Significant differences were found between these groups with regard to personal income and gay community attachment. These two variables are briefly discussed below.

**Income**

HIV positive men were significantly more likely than HIV negative men to be on an annual income of less than $20,000 per annum (see Figure 20).

![Figure 20: Income by HIV status](image)

While nearly half (47.2%) of the HIV positive men earned under $20,000 p.a., the corresponding figure for HIV negative men was 24.4%. The median income for HIV positive men was between $20,000 - $29,000 p.a. compared to $30,000 - $39,000 p.a. for HIV negative men. Nearly a third (30.9%, or 17) of the HIV positive men were on an invalid’s benefit and a further eight men were on another form of benefit. Furthermore, respondents who were HIV positive were significantly more likely to be in the underclass.

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34 These twenty-eight men are not included in this section.


36 As survey respondents were asked questions relating to their current situation at the time of interview, and many of the HIV positive respondents were first diagnosed over five years prior to the survey, it was felt that it would not be appropriate to undertake logistic regression to identify predictors of being HIV positive. It is highly likely that an HIV positive diagnosis will have had a tremendous effect on many aspects of an individual’s life, and may affect, for example, personal income, residency and gay community attachment.

37 p<0.0001.
category. Twelve of the HIV positive men (21.6%) were in this category, compared to 6.7% of the negative men.\textsuperscript{38}

These findings suggest that poverty is a reality for many men who are HIV positive in New Zealand - reinforced by the concern expressed by Body Positive at an HIV Forum in Auckland in 1998 about the levels of financial suffering faced by HIV positive people. As positive MSM live longer due to new drug therapies, this will, undoubtedly, be an ongoing difficulty.

Gay Community Attachment

HIV positive men were significantly more likely than HIV negative men to be gay community attached. The majority of positive men (89.1%) were GCA, compared with 70.1% of negative men.\textsuperscript{39} This is similar to findings of both the 1992 and 1996 Australian Male Call surveys (Crawford et al. 1998:158). There are a number of possible reasons for this. For example, it was found earlier that GCA respondents were more likely to have ever tested for HIV than non-GCA respondents. Also, enhanced gay community attachment may be a result of a positive result and the subsequent increased need for personal support.

![Figure 21: Gay community attachment by HIV status](image)

Sexual relationships and practice

As our experience of the epidemic increases and as new drug therapies increase prospects of longevity for many positive people, sex and its relation to HIV infection becomes an important long-term aspect of positive men's lives (see Temoshok and Frerichs 1998, de Vroome et al. 1998). However, until recently, while most research has

\textsuperscript{38} p=0.004, 
\textsuperscript{39} p<0.001.
included HIV positive men, the research focus has not been on test status and thus not directly on the sexual practices of this group.\textsuperscript{40}

As de Vroome et al (1998) indicate, sex can be problematic for HIV positive men (see also McNab and Worth 1999 for a discussion of this in the New Zealand context). Factors contributing to difficulties around sex in positive men may include the perceived (or real) absence of willing sexual partners, a feeling of guilt, and fear of infecting a partner. However, as Persson et al. (1992) argue, sexual activity remains important for the self-esteem and mental health of HIV positive MSM.

Number of partners

While just under half (45.5\%) of the positive men reported having sex with six or more partners in the last six months, the corresponding figure for negative men was 39.3\%. Ten positive MSM (18.2\%) had sex with over twenty partners during that time, compared to 13.0\% of negative men. It must also be noted that seven positive MSM did not have sex with a male partner at all in the previous six months.

This finding is similar to Male Call Australia. Crawford et al. (1998:151) found that men who were HIV positive were more likely to have had sex with more than ten partners in the last six months, than those who were negative in both the 1992 and 1995 Male Call Australia surveys.

\textsuperscript{40} There are a number of reasons for this. There has been a mistaken belief in some parts of the gay and heterosexual community that once knowing their positive status most HIV positive men will become a-sexual. It has been somewhat taboo to talk about HIV positive men's sexual practice, for to do so may be to acknowledge that not all HIV positive men always practice safe sex. That is, there has been an illusion of the fact that negative men become infected with HIV through unprotected anal intercourse with an HIV positive partner.
Partner type

Similar proportions of HIV positive (41.8%, or 23) and HIV negative (43.0%, or 525) respondents were in a regular sexual relationship with a man of six months or longer. However, it was found that while two thirds (65.5%) of the HIV positive men had sex with a casual partner/s in the previous six months, a higher proportion of the 1220 HIV negative men had done this (73.9% or 902 men). \(^{41}\)

Anal sex and condom use

Although many longitudinal studies report a reduction in risky sexual practice since the beginning of the HIV epidemic (see Ekstrand 1989, Adib et al. 1991, Joseph et al. 1987), only a few studies report a greater decrease in risky sexual practice among HIV positive men than among negative or untested men (see de Vroome et al. 1998 and Higgins et al. 1991 for a discussion of this). There is some international evidence that a significant minority of HIV positive men still engage in risky sexual behaviour after their positive diagnosis (see Guinan et al. 1988, Morlet and Guinan 1989, Wiktor et al. 1990, Marks et al. 1994, Hospers and Kok 1995, Kalichman et al. 1997, Crawford et al. 1998). However, other studies have not found any significant differences in unsafe sex practices between positive and negative men (for example, McKinnon et al. 1995).

Unfortunately, in this survey numbers were too small for adequate statistical comparison of the sex practices and condom use of HIV positive and HIV negative respondents. However, some overall aspects of HIV positive men's sexual practices and condom use in the six months prior to the survey are described here.

Anal Sex and Condom use

Nearly two-thirds of the HIV positive men (53.6% or 35 men) had anal sex with a male partner in the previous six months, compared to 71.7% of those who were HIV negative (875 men).

Very few HIV positive respondents fell into the never used a condom category. Of the thirty-five HIV positive men who had anal sex with a male partner in the previous six months, only two (5.9%) never used a condom for anal sex. Almost a quarter of the HIV negative men (22.4%) never used a condom during that time.

\(^{41}\) Not significant.
Highly unsafe sex

Proportionately more HIV positive than HIV negative respondents had engaged in highly unsafe sex in the previous six months. Nine of the thirty-five HIV positive men who had anal sex in the six months prior to interview (25.7%) had engaged in highly unsafe sex, compared to 18.1% of negative men. Five HIV positive men reported doing this five or more times.

<table>
<thead>
<tr>
<th>HIV positive (n=35)</th>
<th>HIV negative (n=875)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>20%</td>
</tr>
<tr>
<td>30%</td>
<td>40%</td>
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<tr>
<td>50%</td>
<td>60%</td>
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<tr>
<td>70%</td>
<td>80%</td>
</tr>
<tr>
<td>90%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Had HUS

Did not have HUS

Living with HIV can be a traumatic and stressful experience. Commentators have argued that some HIV positive men have great difficulties avoiding risky behaviours. Marks et al. (1998:90) state that while many HIV positive men undoubtedly feel a unique sense of responsibility for protecting partners from risk of HIV infection, “this can be an arduous task”. They argue that there is an association between “negative affect” (depression, tension and anxiety) and use of drugs or alcohol and risky sex. Fisher et al. (1998) found a number of psychological factors involved in risky sex amongst positive men. These included negative attitudes toward HIV prevention, denial of the possibility of HIV transmission and a lack of behavioural skills. Other psychological studies have found that risky behaviour amongst HIV positive men is related to attitudes toward anal sex, to social norms, and to self-efficacy (de Wit and van Griensven 1994).

It is interesting to note that the primary emphasis in the study of positive engaging in unsafe sex has almost exclusively focused on psychological factors. While there is some suggestion that younger and disadvantaged men may be more likely to engage in unsafe sex (Heckman et al. 1998, Holmberg 1996), this is disputed by Van de Ven et al. (1998). Overall, socio-cultural factors have been neglected in research to date.
Section IV: Conclusion

Male Call/Waea Mai, Tane Ma found that the majority of men in the study had tested for HIV at least once in their lifetime, and that testing was associated with a number of factors. HIV testing was less likely in the following demographic groups: men who were very young, or over 40 years old; men who self identified as Chinese or Indian; men who earned under $20,000 pa; men who identified as bisexual; those who were not gay community involved and those who did not know anyone with HIV or AIDS. In addition, it was found that those respondents who had engaged in highly unsafe sex in the past six months were more likely to have never tested for HIV.

Generally speaking, HIV testing has not been a focus of HIV education and prevention programmes in New Zealand. One of the barriers to developing such a campaign may be a perceived divide between personal and public health. That is, HIV testing may be seen as a personal health service, and HIV prevention and education as a public health service.

This report indicates that HIV test status is related to a number of factors such as sexual identity, gay community attachment and poverty. It was also related to highly unsafe sex. That is, anal sex without a condom with a partner or partners whose HIV status was unknown or different from the respondents was associated with not having had an HIV test. This finding suggests that barriers to HIV testing need to be investigated and addressed in the context of HIV prevention.

It appears that there is a large group of men who regularly test for HIV. Men who were aged between 25-39 years, those on an income of $20,000 and over, and those who had been paid for sex in the six months prior to the survey were found to be most likely to test regularly. Perhaps more importantly, it was also found that men who had engaged in anal sex in the past six months, those who had sex with larger numbers of casual male partners in the last six months, and respondents who had used condoms over the last six months were more likely to be regular testers. These men may all be using HIV testing as a way of double-checking that their sexual behaviour is safe.

The current economic situation of some positive men in this country is cause for some concern. This survey found that HIV positive men were more likely than HIV negative men to earn under $20,000 p.a. Many HIV positive men in New Zealand live below the internationally recognised poverty line. The costs of being HIV positive in terms of specialist health care and access to drug therapy are important issues, as well as planning
for a long life with a chronic illness, suitable affordable housing, retraining, and access to support groups.

Furthermore, it was found that a minority of HIV positive men had engaged in highly unsafe sex. Much recent research argues for specific HIV prevention work amongst HIV positive msm (see Temoshok and Frerichs 1998, Fisher et al. 1998, Marks et al. 1996). HIV prevention and education programmes have argued that condoms will protect the individual and his partner/s from HIV infection, and, until recently, they have not specifically focused on issues concerning HIV positive men. HIV positive men may have read these messages as not being applicable to them, as they are already diagnosed with HIV. In order to facilitate the design of effective HIV prevention programmes for HIV positive men, it is important to know more about the barriers to safe sex among this group.
References


Appendix 1: Statistical Analysis

Several logistic regressions were used to investigate the effect of various demographic, social milieu and sexual practice variables (particularly those relating to safe sex) on a number of questions. These questions included whether or not the respondents tested for HIV and, of those who had ever tested, whether they were a regular or an occasional tester. For the demographic and social milieu variables all respondents who had full data were included in the statistical analysis. For the sexual practice variables only those men who had had anal sex in the six months prior to the survey were included.

Ever had an HIV test

Logistic regression was used to investigate the effect of demographic and social milieu factors on whether MSM have had at least one HIV test at any time, and whether they had anal sex with a male partner. 1659 MSM had full information on all these variables and were included in the model shown in Table 1. Of these 1165 had had at least one HIV test.

| Table 1: Demographic and Social Milieu Variables and HIV Testing |
|-----------------|---------------|-------------|
| Variable        | Detail                                   | p value |
| Age group       | 15-24, 25-39, 40+                          | 0.03     |
| Ethnicity       | Maori, Pacific Island, Asian, NZ European/Pakeha and Other | 0.03     |
| Residency       | Auckland, Wellington and Christchurch or Dunedin, Palmerston North, Hamilton and other main urban area or secondary urban areas or minor urban and rural areas | 0.5      |
| Income          | <$20,000 / $20,000 +                        | 0.02     |
| Been paid for sex | Yes/No                                   | 0.9      |
| Sexual identity | 5 binary variables:                         |          |
|                 | Identified as heterosexual or not;         |          |
|                 | Identified as bisexual or not;             |          |
|                 | Identified as gay or not;                  |          |
|                 | Identified as homosexual or not;           |          |
|                 | Identified as queer or not.                |          |
| Gay community attached | Yes/No                                   | 0.02     |
| Know someone with HIV | Yes/No                                   | <0.0001  |
| Know someone with AIDS | Yes/No                                   | 0.03     |
| Had anal sex in previous six months | Yes/No                                   | 0.007    |

Men in the 25-39 age group were slightly more likely to have had an HIV test than the 40+ age group. Those who knew someone with HIV, or knew someone with AIDS, were more likely to have had a test. Those who had anal sex in the previous six months were more likely to have had a test.
Men who identified as Asian were less likely to have ever had an HIV test than men who identified as NZ European or Maori. Those on an income of less than $20,000 were less likely to have ever tested. Men who identified as bisexual were less likely to have had an HIV test than those who did not identify as bisexual.

Logistic regression was also used on a subset of these respondents to investigate the effect of sexual practice factors on whether men had ever tested. Only those men who had anal sex in the six months prior to interview were included. 1192 MSM had full information on all these variables and were included in the model. Of these 885 had had at least one HIV test.

<table>
<thead>
<tr>
<th>Table 2: Sexual Practice and HIV Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable</strong></td>
</tr>
<tr>
<td>Age group</td>
</tr>
<tr>
<td>Ethnicity</td>
</tr>
<tr>
<td>Residency</td>
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<tr>
<td>Income</td>
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<tr>
<td>Been paid for sex</td>
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<tr>
<td>Sexual identity</td>
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<tr>
<td>Gay community attachment</td>
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<tr>
<td>Know someone with AIDS</td>
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<td>Enjoy anal sex</td>
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<tr>
<td>Had highly unsafe sex</td>
</tr>
<tr>
<td>Condom use</td>
</tr>
<tr>
<td>Number of casual male partners</td>
</tr>
</tbody>
</table>

Those who had engaged in at least one incidence of highly unsafe sex in the six months prior to interview were less likely to have ever had an HIV test than men who had not engaged in highly unsafe sex. Those who had engaged in sex with higher numbers of casual male partners were more likely to have ever had an HIV test.
Regular and Occasional HIV Testers

Those who had had at least one HIV test were split into two groups: regular testers - those who had tested more than five times and had tested in the last year - and occasional testers - those who had tested less than five times or had not tested in the past year. There is a bias in this division in that younger respondents may not have tested more than once.

A logistic regression was used to investigate the effect of demographic, social milieu and sexual practice factors on whether MSM who have had at least one HIV test are regular testers or not (see Table 3). 1182 MSM who had had an HIV test had full information on all these variables and were included in the model. Of these 247 were regular testers.

| Table 3: Demographic and Social Milieu Variables and Regular HIV Testing |
|-----------------------------|-----------------------------|-----------------------------|
| Variable                    | Detail                      | p value                     |
| Age group                   | 15-24, 25-39, 40+           | 0.04                        |
| Ethnicity                   | Maori, Pacific Island, Asian, NZ, European/Pakeha and Other | 0.9                         |
| Residency                   | Auckland, Wellington and Christchurch or Dunedin, Palmerston North, Hamilton and other main urban area or secondary urban areas or minor urban and rural areas | 0.3                         |
| Income                      | <$20,000 / $20,000 +        | 0.01                        |
| Been paid for sex           | Yes/no                      | 0.002                       |
| Sexual identity             | 5 binary variables; Identified as heterosexual or not; Identified as bisexual or not; Identified as gay or not; Identified as homosexual or not; Identified as queer or not. | 0.7, 0.2, 0.5, 0.2, 0.1     |
| Gay community attached      | Yes/no                      | 0.9                         |
| Know someone with HIV       | Yes/no                      | 0.1                         |
| Know someone with AIDS      | Yes/no                      | 0.003                       |
| Had anal sex in previous six months | Yes/no | 0.00002              |

Men ages between 25-39 were slightly more likely to be regular testers than men aged 40 and over. Those on an income of more than $20,000 were more likely to be regular testers as were those who had been paid for sex in the previous six months. Those who knew someone with AIDS were more likely to be regular testers. Those who had anal sex in the previous six months were more likely to be regular testers.
Logistic regression was also used on a subset of these respondents to investigate the effect of sexual practice factors on whether respondents were regular testers (see Table 4). Only those who had engaged in anal sex in the six months prior to interview were included. A total of 875 men had full information on all these variables and were included in the model. Of these, 202 were regular testers.

### Table 4: Sexual Practice and Regular HIV Testing

<table>
<thead>
<tr>
<th>Variable</th>
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<tr>
<td>Residency</td>
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<td>Income</td>
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<td>Been paid for sex</td>
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<tr>
<td>Sexual identity</td>
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<td></td>
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<td></td>
<td>Identified as homosexual or not;</td>
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<td></td>
<td>Identified as queer or not.</td>
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<td>Gay community attachment</td>
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<tr>
<td>Know someone with HIV</td>
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</tr>
<tr>
<td>Know someone with AIDS</td>
<td>Yes / no</td>
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</tr>
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<td>Enjoy anal sex</td>
<td>Yes / no</td>
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</tr>
<tr>
<td>Had highly unsafe sex</td>
<td>Yes / no</td>
<td>0.4</td>
</tr>
<tr>
<td>Condom use</td>
<td>Never vs sometimes / always</td>
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</tr>
<tr>
<td>Number of casual male partners</td>
<td>None, 1, 2-4, 5-9, 10 or more</td>
<td>0.008</td>
</tr>
</tbody>
</table>

Those who had used condoms in the previous six months were more likely to be regular testers. Those who had engaged in sex with higher numbers of casual male partners were also more likely to be regular testers.
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